E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EAST CHICAGO, INDIANA 46312

INDUSTRIAL CHEMICALS DEPARTMENT

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(File: TAC 12.4

July 20, 1973

TAC 13

Mr. Oral H. Hert, Technical Secretary
Stream Pollution Control Board
1330 W. Michigan Street
Indianapolis, Indiana 46207

Dear Mr. Hert:

As we previously informed you in our letter of February 2, 1973, the Du Pont Company's East Chicago plant is proceeding on a water pollution abatement program in line with a consent decree signed November 14, 1972, resolving a pollution action by the Federal Government. We submitted an application for preliminary approval of these plans to the Stream Pollution Control Board and received Board approval on February 20, 1973. These plans included projects for cutfall consolidation with facilities for pH control and limitation of effluent discharges with landfilling of removed solids.

Now we are requesting final approval of this application by the Stream Pollution Control Board as required by the Board so that we can proceed with the completion of the abatement facilities. The planned startup of the various elements is governed by the timing specified in the court decree with overall completion by October 15, 1974.

We have attached a description of the various projects including flowsheets and abatement facilities. Design is now final. We have indicated those facilities which have been changed from the preliminary design by "Rev. 6/73" at the bottom of the sheets. Those which do not have this designation are the same as submitted in February.

Please do not hesitate to contact us if you have any question or need additional information.

Yours truly,

J T Sixsmith

J. T. Sixsmith
Environmental Control
Coordinator

JTS:lcs
Attachments

Proposed Landfill

E. I. DuPont DeNemours & Company, Inc.

East Chicago Plant

The following outlines our proposal to construct and operate a landfill at the East Chicago, Indiana Plant of E. I. DuPont DeNemours & Company, Inc., located at 5215 Kennedy Avenue.

Characteristics of Proposed Landfill Area

The proposed landfill area, as shown on the attached map and photograph, is on the site formerly used to landfill calcium sulfate residues from a former sodium phosphate operation. The approximate soil profile in this area is (1) calcium sulfate to a depth of 7 ft below grade level (2) fine sand to a depth of 30 ft and (3) a gray clay base to about 150 ft. The water table is about 11 ft below grade level.

Method of Construction and Operation of the Landfill Area

Approximately 7 acres will be required during the first 5 years of operation. The landfill area will be diked as necessary to avoid fill material reaching adjacent areas not now containing calcium sulfate. The waste will be collected in portable containers which will be transported to the landfill area and deposited on the existing calcium sulfate. The area will be filled and allowed to compact to a final height of about 6 ft above present grade level. Approximately one

acre will be worked at a time, then allowed to dry and compact while a different area is worked. When the final height of 6 ft is reached, the area will be covered with dirt. 6 inch loamy - clay type material

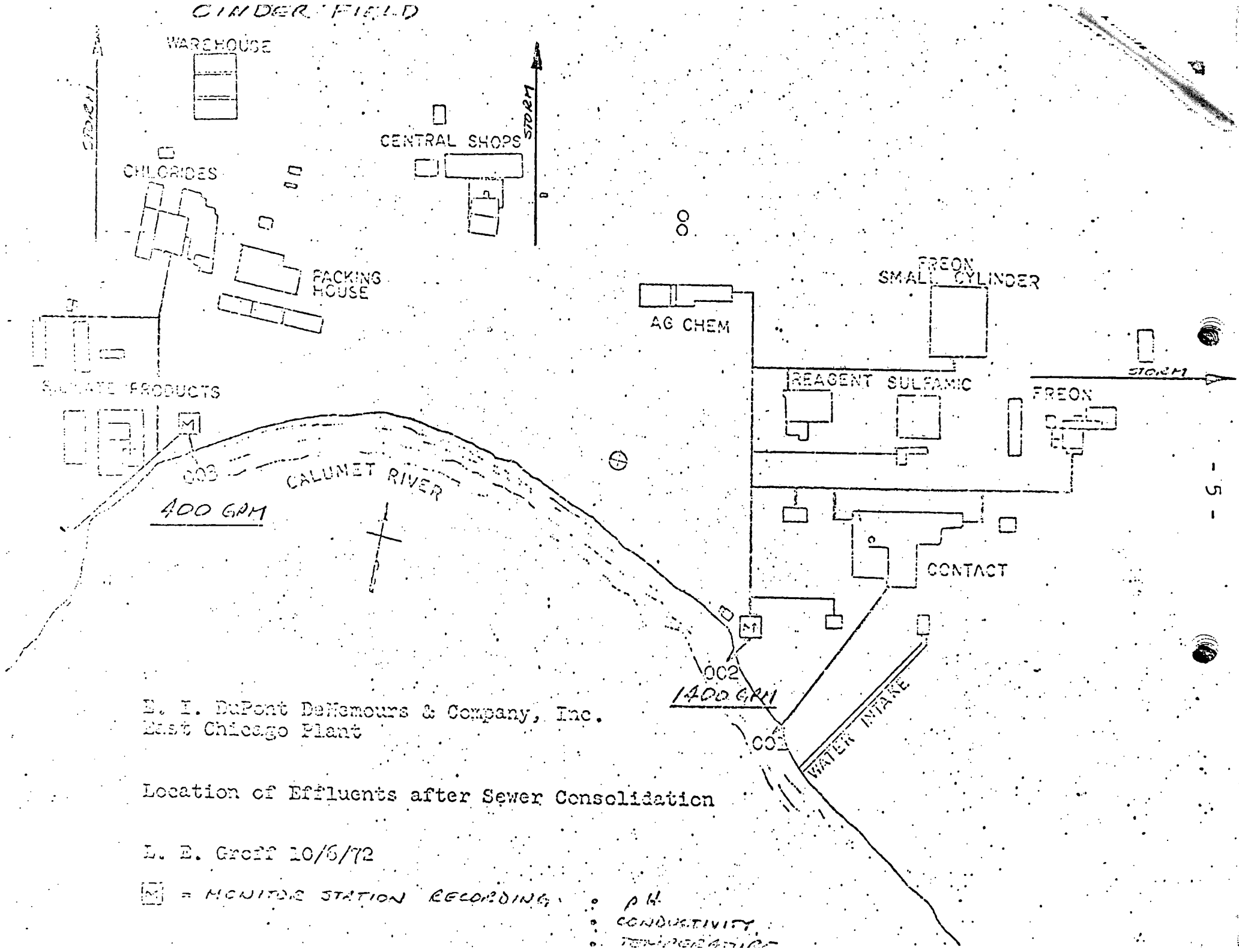
Landfill Materials-Composition (Best Estimates Based on Laborato Data.)

Total volume of wastes is 360,000 cubic feet or 8 acre-ft per year of following composition:

	%	Quantity lb/day
H_2O	52.2	30,000
$CaSO_4 \cdot 2H_2O$	31.3	18,000
SiO_2	6.3	3,600
$Ca(OH)_2$	2.4	1,400
CaF_2	5.6	3,200
Na_2SO_4	1.0	540
Al_2O_3) Fe_2O_3)	.2	120
Cellulose	.3	160
$NH_4SO_3NH_2$	.2	100
$AlCl_3 \cdot 6H_2O$	< .1	10
NaCl	.1	50
Na, as Na_2O (ex silicate)	.4	220
Misc. acid & water insolubles	< .1	12
Heavy metals	< .02	8
	100	57,420 or Approximat 57,000

Cu .00073
.0002
.075
Mn .0002

Rev. 6/73



E. I. DuPont DeNemours & Company, Inc.
East Chicago Plant

Location of Effluents after Sewer Consolidation

L. E. Groff 10/6/72

M = MONITOR STATION RECORDING: pH
CONDUCTIVITY
TEMPERATURE

DESCRIPTION OF PROPOSED FACILITIES

The new sewer system will be constructed primarily of vitrified clay pipe. Joints will be sealed with premolded polyurethane gaskets. Some PVC (polyvinyl chloride) pipe will be used in the "Freon" Products area. The outfall pipes will be made of Flextran© glass fiber-polyester materials. Piping specifications state that infiltration or exfiltration must not exceed 50 gallons per inch of pipe diameter per mile of sewer per day.

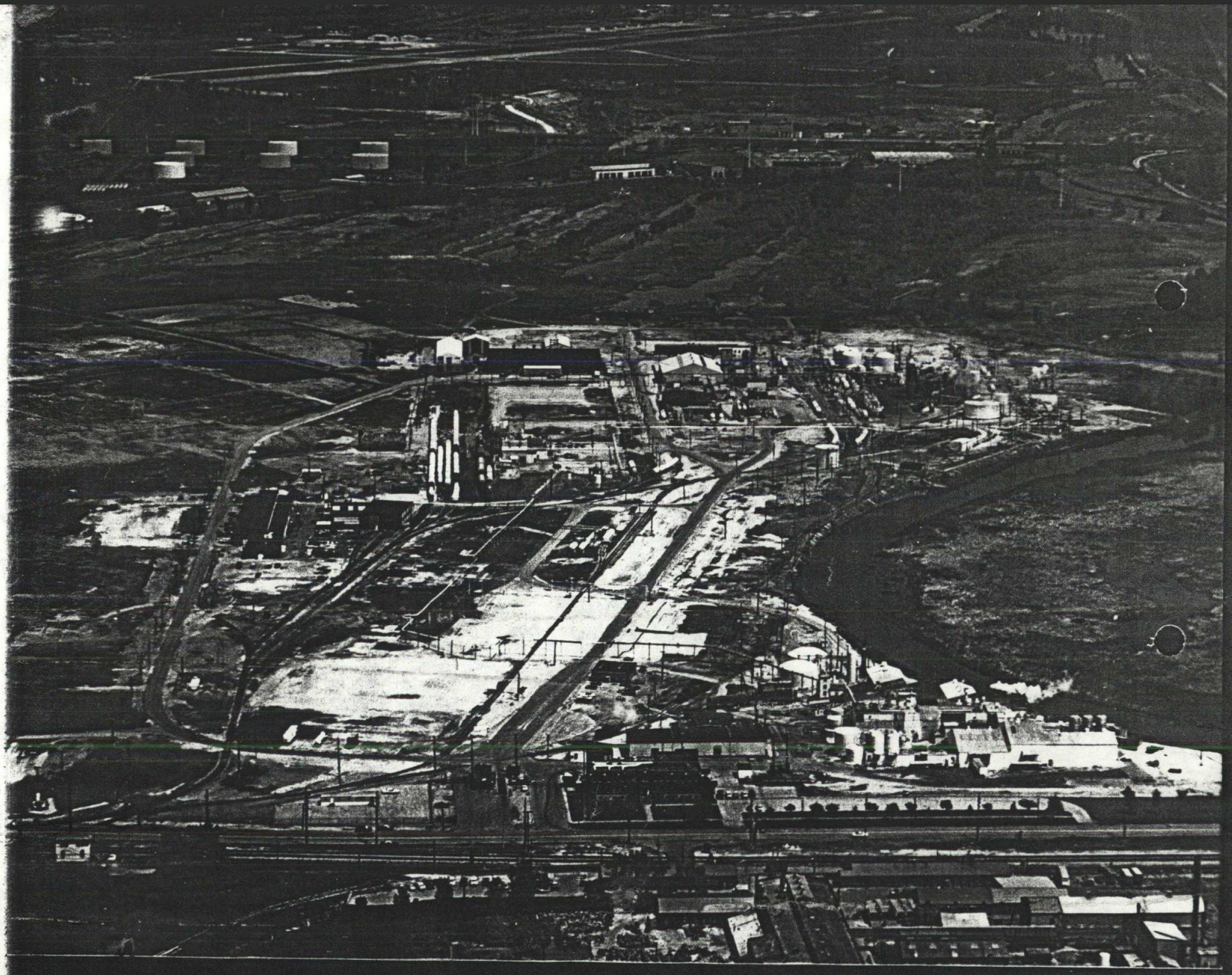
A 10,000 gallon capacity basin will be provided for the sulfamic acid area for emergency spill containment.

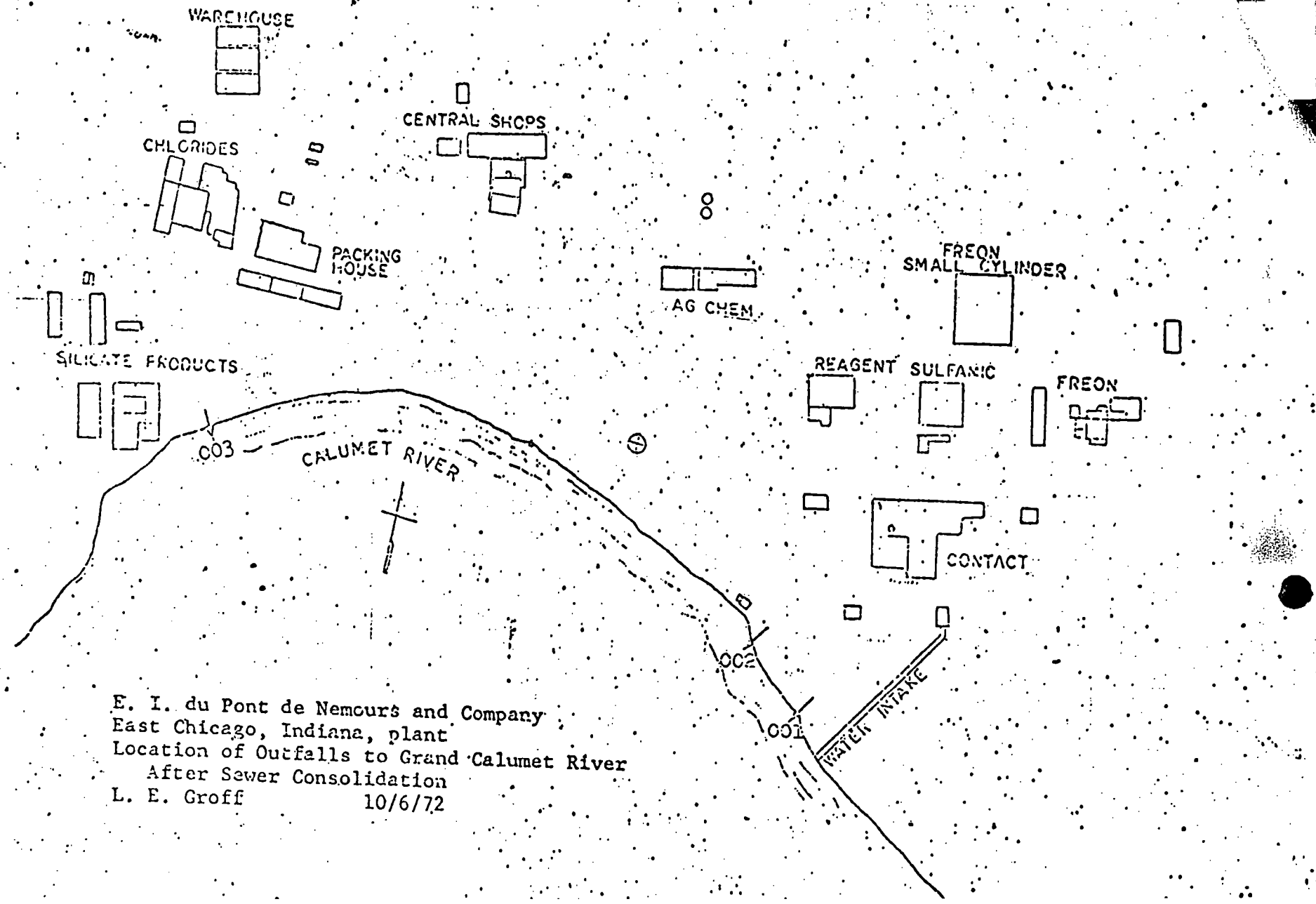
All existing outfalls will be removed a minimum of ten feet from the river and the sewer pipe will be plugged. The existing sewer system which presently carries process and storm water will then be isolated from the new process sewers. The existing sewers will be used to direct most of the storm water run-off to vacant areas on the plant site. The existing sewers will carry storm water from the center and west end of the plant to the cinder field north of the warehouse and central shops (see attached map). At each of these points, water will be discharged to a new 200 ft. trench dug five feet below ground level. Storm water will disperse in the porous cinder field. Storm water from the east end of the plant will flow through the existing sewers to an existing settling pit from which it will overflow into the low sandy area east of "Freon" Products and soak into the sandy soil.

Assuming a heavy storm (5 inches/hour, 10 minutes duration, one occurrence in 10 years), the estimated storm water flows are as follows:

- north of warehouse - 7500 gpm
- north of central shops - 7200 gpm
- east of "Freon" Products - 3300 gpm

These flows will not exceed the reservoir capacity of the receiving areas.





E. I. du Pont de Nemours and Company
East Chicago, Indiana, plant
Location of Outfalls to Grand Calumet River
After Sewer Consolidation
L. E. Groff 10/6/72